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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/773,495	02/06/2004	Alain Schweitzer	1759.153	6630

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ALBANY, NY 12203

EXAMINER

CHAN, EMILY Y

ART UNIT	PAPER NUMBER
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2829

DATE MAILED: 12/27/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<p align="center">Office Action Summary</p>	Application No. 10/773,495	Applicant(s) SCHWEITZER ET AL.	
	Examiner Emily Y Chan	Art Unit 2829	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 February 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 July 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>2-6-04</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACT

Specification

The following guidelines illustrate the preferred layout for the specification of a utility application. These guidelines are suggested for the applicant's use.

Arrangement of the Specification

As provided in 37 CFR 1.77(b), the specification of a utility application should include the following sections in order. Each of the lettered items should appear in upper case, without underlining or bold type, as a section heading. If no text follows the section heading, the phrase "Not Applicable" should follow the section heading:

- (a) TITLE OF THE INVENTION.
- (b) CROSS-REFERENCE TO RELATED APPLICATIONS.
- (c) STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT.
- (d) INCORPORATION-BY-REFERENCE OF MATERIAL SUBMITTED ON A COMPACT DISC (See 37 CFR 1.52(e)(5) and MPEP 608.05. Computer program listings (37 CFR 1.96(c)), "Sequence Listings" (37 CFR 1.821(c)), and tables having more than 50 pages of text are permitted to be submitted on compact discs.) or
REFERENCE TO A "MICROFICHE APPENDIX" (See MPEP § 608.05(a). "Microfiche Appendices" were accepted by the Office until March 1, 2001.)
- (e) BACKGROUND OF THE INVENTION.
 - (1) Field of the Invention.
 - (2) Description of Related Art including information disclosed under 37 CFR 1.97 and 1.98.
- (f) BRIEF SUMMARY OF THE INVENTION.
- (g) BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING(S).
- (h) DETAILED DESCRIPTION OF THE INVENTION.
- (i) CLAIM OR CLAIMS (commencing on a separate sheet).
- (j) ABSTRACT OF THE DISCLOSURE (commencing on a separate sheet).
- (k) SEQUENCE LISTING (See MPEP § 2424 and 37 CFR 1.821-1.825. A "Sequence Listing" is required on paper if the application discloses a nucleotide or amino acid sequence as defined in 37 CFR 1.821(a) and if the required "Sequence Listing" is not submitted as an electronic document on compact disc).

The disclosure is objected to because of the following informalities: the elements shown in Fig 4 are not mentioned in the body of the specification.

Appropriate correction is required.

drawings

1. Figures 1 and 2 are indicated to be prior art and should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.121(d)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.
2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the integral means, the power, the integral power, the derivative of the power and the comparison recited in claim 1, the galvanically and/or electromagnetically isolated for the monitoring means recited in claim 2, the one and the same assembly for the control system and the module for electrical measurement recited in claim 3, the one and the same assembly for the command module and the module for electrical measurement recited in claim 4 and the one and the same assembly for the command module, the control system and the module for the electrical measurement recited in claim 5 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency.

Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

3. Claim 1 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

In the instant application, there is no hardware circuitry shown in the drawings for the "integral means" to perform the claimed functions such as "for digital monitoring of tool wear, absence and breakage simultaneously using the power, an integral of the

power and the derivative of the power to detect a defect in a type of machining operation, by comparison with a reference curve established during a first machining operation performed by the tool". It also is not explained in detail in the specification where the power, the integral of the power and the derivative of the power come from and how they are used to detect the defect of the machining operation and where the comparator is connected in order to perform the comparison operation. Therefore, the specification fails to enable one skilled in the art to make and/or use the instant invention.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1 and 3-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over applicants admitted prior art (see Fig. 1) in view of Shiozakj et al ('726).

Regarding to claim 1, applicants admitted prior art (see Fig. 1) disclose a device for monitoring tool wear and/or breakage for a machine tool as claimed, having a command module (B), a control system (A) for a tool drive motor (M) and a single module (CA) through which three supply phases Φ for the motor (M) pass fully.

Applicant s admitted prior art (See Fig. 1) do not disclose electrical measurement of active power and/or active current absorbed by the motor (M) and an integral means for digital monitoring of tool wear, absent and breakage.

Shiozakj et al ('726) disclose a machine tool with worn-detection function for tool (see Figs. 1-5) and exclusively teach a consumption-power detection means (31) for electrical measurement of active power absorbed by the motor (see Col. 2, lines 48-49 and Col. 5, lines 11-12) and an integral means (32,33 and 34) for digital monitoring of tool wear, absence and breakage simultaneously using the power, an integral of the power and a derivative of the power (pw1, pw1 and pw2) to detect a defect (see abstract, lines 7-10) in a type of machining operation (cutting process) by comparison (54) with a reference curve (see Fig 3, PW2T) established during a first machining operation performed by the tool (see Col. 6, lines 30-53).

Therefore, It would have been obvious to one of skilled in the art at the time the claimed invention was made to incorporate the teaching of the consumption-power detection means and the digital monitoring means as taught by Shiozakj et al ('726) into applicants admitted prior art for the expected benefit of allowing delicate fluctuation of the consumption power to be detected and having the worn detection for the tool to be ensured as disclosed by Shiozakj et al ('726)(abstract, last three lines).

Regarding to claims 3-5, Applicants admitted prior art and Shiozakj et al ('726) do not disclose that the control system (A) and the single module (E) recited in claim 3, the command module (B), the single module (E) recited in claim 4 and the command module (B), the control system (A) and the single module (E) recited in claim 5, are integrated into one and the same assembly respectively. However it is well known to assembly the components together (see MPEP 2144 V. MAKING PORTABLE, INTEGRAL, SEPARABLE, ADJUSTABLE, OR CONTINUOUS).

Regarding to claim 6, Shiozakj et al ('726) 's reference is directed to a cutting machine defect.

Regarding to claim 7, Shiozakj et al ('726) 's reference is directed of a cutting machining comprising the same motor (19) and turning and usage on rough workpieces (cutting various metallic materials) (see Col. 1, lines 11-12).

5. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over applicants admitted prior art in view of Shiozakj et al ('726) as applied to claim1 above, and further in view of Klaus et al ('006).

Applicants admitted prior art and Shiozakj et al ('726) do not disclose that the electrical measurement and the means for monitoring the tool wear and breakage are galvanically and/or electromagnetically isolated.

Klaus et al ('006) disclose a protective device for an electric motor and exclusively teach that a sensor (1) and an evaluation unit (3-5) is galvanically isolated. (see abstract and fig. 1).

It would have been obvious to one of skilled in the art at the time the claimed invention was made to incorporate the teaching of galvanically isolating between the sensor and evaluation unit as taught by Klaus et al ('006) into applicant admitted prior art and Shiozakj et al ('726) 's device for the expected benefit of preventing a transmission of overvoltages from electrical measurement to the tool monitoring means as disclosed by Klaus et al ('006) (see abstract).

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Fromson et al ('494) disclose a tool wear and tool failure monitoring system and teach an integral means (see Fig. 3) including a comparator (34) for digital monitoring of tool wear.

Takagi et al ('533) disclose a tool abnormality detecting device and teach an integral means (see Figs 1 and 4) including a comparator (34) for digital monitoring of tool wear.

Yee et al ('444) disclose a rotating tool wear monitoring apparatus.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Emily Y Chan whose telephone number is 571-272-1956. The examiner can normally be reached on 8:30-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nestor Ramirez can be reached on 571-272-2034 the fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


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EC

12-20-04


DAVID ZARNEKE
PRIMARY EXAMINER
12/21/04